until the air contains less than 1.0 volume per centum of methane.

### § 77.211–1 Continuous methane monitoring device; installation and operation; automatic deenergization of electric equipment.

Continuous methane monitoring devices shall be set to deenergize automatically electric equipment when such monitor is not operating properly and to give a warning automatically when the concentration of methane reaches a maximum percentage determined by an authorized representative of the Secretary which shall not be more than 1.0 volume per centum of methane. An authorized representative of the Secretary shall require such monitor to deenergize automatically electric equipment when the concentration of methane reaches a maximum percentage determined by such representative which shall not be more than 2.0 volume per centum of methane.

### § 77.212 Draw-off tunnel ventilation fans; installation.

When fans are used to ventilate draw-off tunnels the fans shall be:

(a) Installed on the surface;

(b) Installed in fireproof housings and connected to the tunnel openings with fireproof air ducts; and,

(c) Offset from the tunnel opening.

### § 77.213 Draw-off tunnel escapeways.

When it is necessary for a tunnel to be closed at one end, an escapeway not less than 30 inches in diameter (or of the equivalent, if the escapeway does not have a circular cross section) shall be installed which extends from the closed end of the tunnel to a safe location on the surface; and, if the escapeway is inclined more than 30 degrees from the horizontal it shall be equipped with a ladder which runs the full length of the inclined portion of the escapeway.

### § 77.214 Refuse piles; general.

(a) Refuse piles constructed on or after July 1, 1971, shall be located in areas which are a safe distance from all underground mine airshafts, preparation plants, tipples, or other surface installations and such piles shall not be located over abandoned openings or steamlines.

(b) Where new refuse piles are constructed over exposed coal beds the exposed coal shall be covered with clay or other inert material as the piles are constructed.

(c) A fireproof barrier of clay or inert material shall be constructed between old and new refuse piles.

(d) Roadways to refuse piles shall be fenced or otherwise guarded to restrict the entrance of unauthorized persons.

[36 FR 9364, May 22, 1971, as amended at 36 FR 13143, July 15, 1971]

### § 77.215 Refuse piles; construction requirements.

(a) Refuse deposited on a pile shall be spread in layers and compacted in such a manner so as to minimize the flow of air through the pile.

(b) Refuse shall not be deposited on a burning pile except for the purpose of controlling or extinguishing a fire.

(c) Clay or other sealants shall be used to seal the surface of any refuse pile in which a spontaneous ignition has occurred.

(d) Surface seals shall be kept intact and protected from erosion by drainage facilities.

(e) Refuse piles shall not be constructed so as to impede drainage or impound water.

(f) Refuse piles shall be constructed in such a manner as to prevent accidental sliding and shifting of materials.

(g) No extraneous combustible material shall be deposited on refuse piles.

(h) After October 31, 1975 new refuse piles and additions to existing refuse piles, shall be constructed in compacted layers not exceeding 2 feet in thickness and shall not have any slope exceeding 2 horizontal to 1 vertical (approximately 27°) except that the District Manager may approve construction of a refuse pile in compacted layers exceeding 2 feet in thickness and with slopes exceeding 27° where engineering data substantiates that a minimum safety factor of 1.5 for the refuse pile will be attained.

(i) Foundations for new refuse piles and additions to existing refuse piles shall be cleared of all vegetation and undesirable material that according to